

Appl. No. 09/897,790
Reply to Office Action of September 23, 2004
Response dated January 24, 2005

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.
Claims 32-40 remain pending.

In response to the Examiner's comments concerning the previously-filed Information Disclosure Statements, Applicant are submitting herewith a Supplemental Information Disclosure Statement providing copies of the references that were indicated by the Examiner as missing from the previous Information Disclosure Statements. The Examiner is therefore respectfully requested to consider all of the documents listed on the PTO-1449 forms accompanying the Information Disclosure Statements.

Turning now to the substantive issues, Applicant appreciates the Examiner's indication that claims 32-34 are allowed. However, claims 35-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,775,258 to van Valkenburg et al. in view of U.S. Patent No. 5,956,331 to Rautiola. This rejection is respectfully traversed.

Specifically, Applicant respectfully submit that one skilled in the art would not have been motivated to modify a Bluetooth scatternet network as taught by van Valkenburg in accordance with the teachings of Rautiola that relate to a Hiperlan network. Applicant also respectfully submits that as admitted by the Examiner, the van Valkenburg patent fails to teach a gateway as recited in the claims. Applicant further submits that one skilled in the art would not have been motivated to modify the scatternet network taught by van Valkenburg to employ a "gateway" as

taught by Rautiola, and that the “gateway” taught by the Rautiola patent fails to include the functionality of the gateway according to the claimed embodiments of the invention.

The details of the claimed embodiments of the invention, and the cited patents, will now be discussed.

The claimed embodiments of the present invention provide an ad-hoc radio system and method comprising, among other things, a series of remote radio terminals, at least one gateway, and a plurality of wireless routers. The remote radio terminals are capable of communicating with other radio terminals, and for acting “as a hop” for other radio terminals. That is, one or more radio terminals can act as an intermediate terminal for routing information between source and destination terminals. The gateway and wireless routers are in operative communication with the radio terminals, such that the radio terminals can communicate with each other via the wireless routers and the gateway, and the radio terminals can communicate with the gateway via the wireless routers. These features are recited in apparatus as well as method step form in independent claims 35, 36 and 39.

The van Valkenburg patent teaches Bluetooth scatternet which forms a group of piconets 12 and 14. As shown in Figure 1, each piconet includes a master node (e.g., master nodes 16 and 22) and a plurality of slave nodes 18-1 through 18-5). The slave nodes 18-1 through 18-5 communicate via their respective master nodes 16 or 22. In certain arrangements, such as those shown in Figures 2, 7 and 8, a slave node can also act as a master node.

It is apparent from the Office Action that the Examiner is interpreting the slave nodes as the claimed "radio terminals". The Examiner also contends that a slave node acting as a master node corresponds to the claimed "wireless router". The Examiner admits, however, that the van Valkenburg patent fails to teach the claimed "gateway".

Applicant respectfully submits that under this interpretation, the van Valkenburg fails to teach the claimed arrangement of the radio terminals and wireless routers. For example, as discussed above, the radio terminals are defined as being able to act as a "hop" for other radio terminals. Granted, Figures 2, 7 and 8 of van Valkenburg illustrate that a slave node 18-3 or 18-4 can operate as a master node. However, in that operation, the Examiner contends that the slave node would thus be a "wireless router". Applicant respectfully notes that the slave nodes (e.g., 18-5, 18-6) communicate with this slave/master node, but do not act as a "hop" for each other. That is, in the van Valkenburg system, a slave node that acts as a master creates a hierarchy, or tree topology, not a meshed network. Specifically, a slave of one master cannot talk to a slave of another except by traversing the tree (e.g., up one path through its master node, and then to the other master node and down the path stemming from that master node to the destination slave node). On the contrary, in the claimed embodiments, a radio terminal, associated with a router or gateway, can talk directly or indirectly with a radio terminal associated with another router or gateway without traversing a tree. As can be appreciated by one skilled in the art, this functionality has significant positive impacts on the ability to scale and provide bandwidth to the

network, which is advantageous to the hierarchical tree arrangement taught by van Valkenburg.

Moreover, even assuming for purposes of argument that the slave/master node operates as a wireless router, the van Valkenburg patent fails to teach or suggest the need for a plurality of such wireless routers. Rather, this single slave/master node acts as the link between the slave nodes in its piconet and another master node in another piconet (see Figures 2, 7 and 8). Accordingly, in addition to failing to teach the claimed “gateway” (although the Examiner notes that master node 22 can act as an access way to the Internet as shown in Figure 8), the van Valkenburg patent fails to teach the “hop” feature of the radio terminals, as well as the plurality of wireless routers.

Concerning the Rautiola patent, as stated above, Applicant notes that Rautiola teaches a Hiperlan system in which nodes or stations 3a-3f are arranged in local coverage areas 4b and 4c. Figure 1 of Rautiola also illustrates a gateway 1 which, as described in column 4, lines 47-50, “is used to establish a data transfer connection between the radio local area network and the switching center of the general cellular radio network”.

As stated above, Applicant respectfully submits that one skilled in the art would not have been motivated to modify the Bluetooth type network described in van Valkenburg with the features associated with the Hiperlan network taught by Rautiola, since the networks are unlike each other in their operation and purpose. Furthermore, Applicant respectfully notes that although the Rautiola patent uses the term “gateway”, the gateway 1 of Rautiola provides an

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interworking between two network protocols, namely, the Hiperlan protocol and the cellular radio network. On the contrary, as described beginning on page 13 of the present application, the claimed "gateway" operates as a bridge between wired and wireless physical layers and can further act as an intermediary for communication between radio terminals in the network.

In addition, even assuming for purposes of argument that the gateway 1 taught by Rautiola can be construed as the claimed gateway, like the van Valkenburg patent, the Rautiola patent fails to teach multiple wireless routers. That is, even assuming that nodes 3a-3f are radio terminals, the Rautiola system includes radio terminals and the "gateway 1", but no wireless routers. Accordingly, even if the van Valkenburg system were modified to include a "gateway" as taught by Rautiola (although such a modification would be inconsistent with the operations of the different types of networks taught by these patents), the modified system would, at best, include radio terminals and a "gateway".

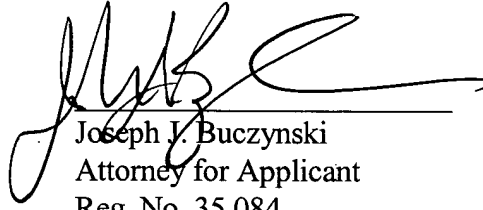
For all these reasons, Applicant respectfully submits that independent claims 35, 36 and 39, and dependent claims 37, 38 and 40, should be allowable. Concerning dependent claim 38 specifically, Applicant respectfully submits that neither of the cited patents teaches the "authentication" feature explicitly recited in that claim.

In view of the above, it is believed that the subject application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any

Appl. No. 09/897,790
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Response dated January 24, 2005

questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Respectfully submitted,



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